



DTIC ELECTE AUG 2 6 1981

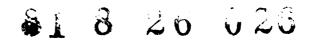


DISTRIBUTION STATEMENT A

Approved for public release; Distribution Unlimited

FILE COPY

Graduate School of Management
University of Oregon
Eugene, Oregon 97403





Functional Turnover: An Empirical Assessment

Dan R. Dalton Indiana University

David M. Krackhardt University of California, Irvine

Lyman W. Porter University of California, Irvine



Technical Report No. 5

August 1981

### Principal Investigators

Richard M. Steers, University of Oregon Richard T. Mowday, University of Oregon Lyman W. Porter, University of California, Irvine

Prepared under ONR Contract N00014-81-K-0026

NR 170-921

Distribution of this document is unlimited. Reproduction in whole or in part is permitted for any purpose of the United States Government. SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE	READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	NO. 3. RECIPIENT'S CATALOG NUMBER
Technical Report, No. 5  AD-A10	3 355
4 TITLE (MA Sublifie)	5 TYPE OF REPORT & PERIOD COVERED
TILE (and Subtitle)	THE OF REPORT & PERIOD COVERED
Functional Turnover: An Empirical Assessment	
	6 PENFORMING ORG. REPORT NUMBER
7. AUTHOR(e)	8. CONTRACT OR GRANT NUMBER(a)
Dan R./ Dalton	
David M./Krackhardt	N00014-81-K-0026
Lyman W./Porter	
9. PERFORMING ORGANIZATION NAME AND ADDRESS	10 PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
Graduate School of Management	1
University of Oregon	NR 170-921
Eugene, Oregon 97403	
11. CONTROLLING OFFICE NAME AND ADDRESS	12. REPORT DATE
Organizational Effectiveness Research	
Office of Naval Research	13. NUMBER OF PAGES
Arlington, VA 22217	9 pages
14. MONITORING AGENCY NAME & ADDRESS(II dillerent from Controlling Offi	í
(12) TF 1 1 1 1 28 1 1	Unclassified
	150 DECLASSIFICATION/DOWNGRADING
	SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report)	
Distribution of this document is unlimited. Re	production in whole or in
part is permitted for any purpose of the United	
part is permitted for any purpose of the onited	States Government.
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, If differen	it from Report)
18. SUPPLEMENTARY NOTES	
ł	
	100
19. KEY WORDS (Continue on reverse elde il necessary and identify by block nut	nuer)
Turnover	
Organizational Control	
20 ABSTRACT (Continue on reverse side if necessary and identity by block num	ber) Te han hoon around that the
traditional method of categorizing employee turn untary has the effect of overstating the gravi	
tion. A recently suggested taxonomy is used to	
tional/dysfunctional" and "unavoidable/controlla	able" employee separations. The
analysis of data on employees (N=1389) of Wester	
both the replaceability and quality of department	
TOUCH THE LEGIALEMOTITES AND QUALITY OF GEDALLINE	nt employage indicates substant
tial levels of functional (71%) and unavoidable	

DD 1 JAN 73 1473

EDITION OF 1 NOV 65 IS OBSOLETE

Unclassified

5 'N 0102-1F-014-6601

SECURITY (LASSIFICATION OF THIS PAGE (When Date Entered)

### 20. Abstract (continue)

suggest that the traditional dichotomy may, in fact, substantially overstate the impact of voluntary turnover.

to the second second

It would appear that the impact of employee turnover on the organi- a zation could hardly be overstated. The cost of replacing a single non-managerial employee has been estimated at over \$2500 (Mirvis & Lawler, 1977). Not surprisingly, a large effort has been dedicated to the investigation of the turnover phenomenon; it has been estimated that over 1000 studies and articles have appeared in print on this subject (Muchinsky & Morrow, 1980; Steers & Mowday, in press). These works have a common thread—turnover is a costly organizational problem and should be reduced (Staw, in press).

Recent work, however, has questioned the fundamental assumption that turnover is invariably dysfunctional to the organization (Dalton & Todor, 1979; Dalton & Todor, in press (a), (b); Jeswald, 1974; Muchinsky & Tuttle, 1979; Muchinsky & Morrow, 1980; Staw, in press; Staw & Oldham, 1978). Dalton (1981) has suggested that levels of turnover, whether viewed positively or negatively, are overstated. Inappropriate measurement and reporting practices may be factors which lead to a systematic overstatement of the impact of turnover on the organization.

### Turnover Recategorized

Comparing the categories in Tables 1 and 2 illustrates a fundamental difference between the traditional model of turnover and a model which identifies. "functional" turnover (Functional turnover is beneficial to the the organization). Notice that in both tables, cells "A" and "B" are identical. It is in the classification of "voluntary" turnover that the essential difference lies. In the traditional taxonomy (Figure 1), the organization's evaluation of the departing employee is ignored. In the expanded taxonomy (Figure 2), however, the evaluation of the employee is crucial.

The expanded taxonomy (cells "C" and "D" of Table 2) includes two different kinds of "voluntary" turnover (Dalton, Todor & Krackhardt, in press).

<u>Dysfunctional</u> (cell C) - The individual wants to leave the organization but the organization prefers to retain the individual. This, of course, represents dysfunctional turnover; and,

Functional (cell D) - The individual wants to leave the organization, but the organization is unconcerned. The organization has a negative evaluation of the individual. This represents functional turnover-turnover decidedly beneficial to the organization.

Clearly, the effects of these employee separations on the organization would be quite different. The fundamental point is that to combine the cases in the lower cells of Table 2 would have the effect of overstating the gravity of turnover on the organization. The benefits of functional turnover are disregarded. Of course, functional turnover is not without its costs to the organization. Recruitment, training, and a portion of the administrative overhead still must be defrayed. Even so, functional turnover may be, in the balance, a positive phenomenon for the organization. Consequently, an important objective is to separate dysfunctional from functional turnover.

Another Concern: Unavoidable vs. Controllable Turnvoer

Recent reviews suggest that turnover research has been aimed primarily towards identifying the antecedents of voluntary turnover (Porter & Steers, 1973; Price, 1977; Muchinsky & Tuttle, 1979; Mobley, Griffeth, Hand & Meglino, 1979). Presumably, such an identification may provide a means to reduce the incidence of turnover. However, if voluntary turnover is to be reduced, it must be under organizational control. Price (1977) persuasively argued that a primary reason for the reliance on voluntary turnover as a dependent variable is that it is more subject to

organizational control. Presumably, attempts to reduce any portion of voluntary turnover *not* subject to organizational control would be counter productive.

With respect to the expanded taxonomy (Figure 2), only cell C represents dysfunctional turnover. However, the total number of employees categorized in cell C does not necessarily represent turnover over which the organization has control. Employees who leave for education, family commitments, and health matters, for example, are not ordinarily subject to such control. If an aim of the organization is to reduce turnover, then the inclusion of such separations in its turnover reporting is misleading. For the theorist, this problem may provide a rationale for the relatively low associations between turnover and its suspected correlates. It may be that when using "voluntary" turnover as a dependent variable, we do not have a homogeneous subset.

### Objectives |

This research, then, addresses two questions with respect to voluntary turnover:

1) Is the functional portion of voluntary turnover sufficiently large to warrant separate identification?

### and

2) What portion of dysfunctional turnover is essentially unavoidable?

### **METHOD**

Termination records were collected on bank tellers (N=1389) at 190 bank branches for a seven month period. The immediate supervisor of each departing employee was required by the bank to complete termination forms

from which it was determined whether the employee left voluntarily or was dismissed. In addition, the supervisor was asked to fill out a form on each teller which included the following items:

- 1. Would you rehire this person to work for you?
  - a. I would definitely hire this person to work for me again.
  - b. I would slightly prefer to hire this person (rather than someone else) to work for me again.
  - c. I am indifferent as to whether this person ever works for me again.
  - d. I would prefer to hire someone else to work for me.
  - e. Under no circumstances would I hire this person to work for me again.
- 2. How would you rate this person's performance as a teller while he or she was working for you?
  - a. Inadequate; clearly failed to meet minimum job requirements.
  - Generally adequate; met most job requirements; however, required close supervision.
  - c. Competent; met all requirements; required only minimal supervision.
  - d. High quality work; exceeded most requirements; made a valuable contribution and showed initiative.
  - e. Exceptional; consistently demonstrated outstanding performance.
- 3. In general, how easy would it be to find someone who would do as good a job as this person did?
  - a. Very easy
  - b. Somewhat easy
  - c. Somewhat difficult
  - d. Very difficult

This information was then collapsed into two dichotomous metrics to represent the organization's evaluation of the departing employee (Dalton, et. al., in press):

Quality of Employee. If the supervisor indicated that s/he would prefer to hire someone else (responses "d" or "e") in question 1; OR if the supervisor rated the employee as "inadequate" on question 2, then the employee was considered low quality. Otherwise, the employee was considered acceptable or high quality.

Replaceability of Employee. If the supervisor indicated that an employee would be at least "somewhat easy" to replace (question 3, "a" or "b"), then the employee was considered easily replaced. Any other responses were interpreted to mean that the employee would be "difficult" to replace.

Employees were then placed into one of the four cells suggested by Tables 2 and 3. Inasmuch as there were two independent evaluative measures ("quality" and "replaceability" of employee), separate frequency tables were formed each representing a different concept of employee evaluation. Also, individual separation forms were examined to identify the reason for the voluntary terminations (e.g., retirement, health, family commitment, job adandonment) to determine which separations were under organizational control.

#### **RESULTS**

### Extent of Functional Turnover

Table 1 represents the traditional categorization separating involuntary from voluntary turnover. Focusing on voluntary turnover as the "problem," the organization was experiencing a 32% turnover rate. This is a high percentage. The concern for such a turnover rate was, in fact, the primary reason that the sample organization granted permission for this research effort.

By dividing the "quit" category into dysfunctional and functional components, the turnover rate is greatly reduced. As indicated in Table 2, the proportion of turnover that involved valuable or at least acceptable employees is reduced to only 18%. If employees are evaluated by replaceability (Table 3), an arguably more relevant criterion, the dysfunctional turnover figure is less than 9%.

There are two points which should be noted. First, 9% or 18% turn-over rates are not trivial; depending on the circumstances, such a rate could be disastrous. We would argue, however, that, coteris paribus, both 9% and 18% turnover rates are of less concern than the original 32%. Second, 42% of the voluntary turnover was actually beneficial to the organization by the "quality" standard; 185 people voluntarily left over the

period who were not recommended for rehire and/or were evaluated as inadequate (clearly failed to meet dinimum job requirements). These "quits" represent functional turnover for the organization. By the "replaceability" standard, the results are somewhat more impressive: 314 employees (71% of the total voluntary turnover) left the organization over the test period who were evaluated as "easy to replace."

Unavoidable Turnover and Organizational Control

It has been suggested that organizational resources committed to reduce unavoidable turnover is money unwisely spent. Table 4 illustrates the extent to which this aspect of control confuses the reporting of organizational turnover.

### (Insert Table 4 About Here)

As indicated in Table 4, there are substantial portions of both dysfunctional and functional turnover which are essentially unavoidable. Importantly, the unavoidable categories (i.e., temporary, summer, education, health, family commitment, personal, job abandonment) are provided by the management of the sample organization. Simply, no reasonable intervention would have prevented these separations.

In the case of functional turnover, these unavoidable separations are of little consequence. Frankly, it can be argued that it really does not matter why these individuals left; they are not valued by the organization in any case. With dysfunctional turnover, however, the unavoidable category is of marked importance. If an essential thrust of turnover research involves its reduction, the unavoidable category should be identified. This is particularly true if, as in this case, unavoidable separations amount to 45% or 52% ("quality" or "replaceability") of total dysfunctional turnover.

The "avoidable/controllable" turnover dichotomy should be viewed with some caution. There is no particular reason to believe that employees accurately report their reasons for leaving. Certainly, in some cases it would be easier for employees to say that they were leaving to return to school, for example, when in fact they simply do not like the job. Also, employees may not wish to "burn their bridges" behind them. Obviously, "reasons for leaving" stated without care may result in a recommendation not to rehire. While the "avoidable" category seems large, it may be somewhat overstated.

#### DISCUSSION

The invariably negative implications of turnover on the organization have recently been criticized (Dalton & Todor, 1979; Dalton & Todor. in press (a), (b); Muchinsky & Tuttle, 1979; Muchinsky & Morrow, in press; Staw, in press; Staw & Oldham, 1978). Whether a more positive or the traditional view of turnover is taken may be largely function of its measurement. The usual "voluntary/involuntary" dichotomization of turnover may be necessary, but insufficient, to evaluate turnover in its proper perspective. Perhaps by recognizing that turnover may be subject to dysfunctional and functional categorizations and appreciating that certain turnover is, for practical purposes, unavoidable, a more responsible estimate of the impact of turnover on the organization may be determined.

As indicated in the Table 5 compendium, whether relying on a "quality" or "replaceability" criterion, the amount of functional turnover is substantive. This summarization also suggests that the avoidable/controllable dichotomy is a meaningful one. Approximately half of the cases of dysfunctional turnover by either criterion were not avoidable; i.e.

no reasonable intervention by the organization would have prevented the employee separations.

### (Insert Table 5 About Here)

The shaded portions of Table 5 represent dysfunctional turnover which is potentially controllable by the organization. These sections identify personnel who the organization prefers to retain. Also, organizational intervention may actually reduce the incidence of this turnover. Compare the amounts of controllable, dysfunctional turnover with the total voluntary turnover: 31.7% vs 10.0% by "quality"; 31.7% vs 4.3% by "replaceability." That may be testimony for overstatement, or at least misunderstanding, of the "voluntary" category.

The contributions of the expanded taxonomy are threefold. First, categorizing voluntary turnover in the manner endorsed by this research may lead to a more realistic portrayal of the impact of turnover on the organization. A program to reduce turnover may be actually shortsighted for organizations with relatively large portions of functional and/or unavoidable turnover. Arguably, functional turnover should not be reduced. Moreover, to commit organizational resources to reduce turnover which is essentially unavoidable is futile.

Second, as previously noted, the expanded taxonomy may provide a partial explanation for the ordinarily low associations between voluntary turnover and its suspected antecedents and determinants. Perhaps the correlates of functional and dysfunctional turnover are not the same; the "voluntary" categorization may not be homogeneous. This is especially bothersome inasmuch as Price (1977) noted that one of the primary reasons that researchers have relied on the voluntary/involuntary dichotomy is to assure homogeneity.

Lastly, individuals categorized as functional or dysfunctional separations may be predictably different from one another. They may, for example, respond to different types of intervention. To the extent that these individuals are dissimilar, organizations may be able to minimize dysfunctional without artificially suppressing functional turnover.

We can agree with Porter and Steers (1973) that our understanding of the manner in which actual withdrawal decisions are made is far from complete. Perhaps the expanded taxonomy may add to a somewhat better understanding.

### REFERENCES

- Dalton, D. R. Turnover and absenteeism: Measures of personnel effectiveness. In Schuler, R. S., McFillen, J. M., and D. R. Dalton (Eds) Applied Readings in Personnel and Human Resource Management. West Publishing Company, 1981, 20-38.
- Dalton, D. R. & Todor, W. D. Turnover turned over: An expanded and positive perspective. <u>Academy of Management Review</u>, 1979, <u>4</u>, 225-236.
- Dalton, D. R., Todor, W. D., & Krackhardt, D. M. Turnover overstated: The functional taxonomy. Academy of Management Review, in press(a).
- Dalton, R.R. & Todor, W.D. Turnover: A lucrative hard dollar phenomenon.

  Academy of Management Review, in press (b).
- Jeswald, T. A. The cost of absenteeism and turnover in a large organization. In W. C. Hamner & F. L. Schmidt, <u>Contemporary Problems in Personnel</u> (1st Ed). Chicago: St. Clair Press, 1974.
- Mirvis, P. M. & Lawler, E. E. Measuring the financial impact of employee attitudes. <u>Journal of Applied Psychology</u>, 1977, 62, 1-8.
- Mobley, W. H., Griffeth, R. W., Hand, H. H. & Meglino, B. M. Review and conceptual analysis of the employee turnover process. <u>Psychological Bulletin</u>, 1979, 86, 493-522.
- Muchinsky, P. M. & Morrow, P. C. A multidisciplinary model of voluntary employee turnover. <u>Journal of Vocational Behavior</u>, 1980, 17, 263-290.
- Muchinsky, P. M. & Tuttle, M. L. Employee turnover: An empirical and methodological assessment. <u>Journal of Vocational Behavior</u>, 1979, 14, 43-77.
- Porter, L. W. & Steers, R. M. Organizational, work, and personal factors in employee turnover and absenteeism. <u>Psychological Bulletin</u>, 1973, 80, 151-176.
- Price, J. L. <u>The Study of Turnover</u>. Ames, Iowa: The Iowa State University Press, 1977.
- Staw, B. M. The consequences of turnover. <u>Journal of Occupational Behavior</u>, in press.
- Staw, B. M. & Oldham, G. R. Reconsidering our dependent variables: A critique and empirical study. <u>Academy of Management Journal</u>, 1978, 21, 539-559.
- Steers, R. M. & Mowday, R. T. Employee turnover and post-decision accommodation processes. In B. M. Staw and L. L. Cummings (Eds). Research in Organizational Behavior, Vol. 3. Greenwich, Conn.: JAI Press, in press.
- Steers, R. M. & Rhodes, S. R. Major influences on employee attendance: A process model. <u>Journal of Applied Psychology</u>, 1978, 63, 391-407.

Table 1

# TRADITIONAL CLASSIFICATION OF TURNOVER (7 Month Period) Organization's Evaluation of Individual

		+	-	
INDIVIDUAL'S EVALUATION OF ORGANIZATION	No initiation of voluntary turnover	A employee remains n=856 (61.6%)	B employee fired n=92 (6.6%)	TOTAL N=1389 (100%)
IVIDUAL'S OF ORGAN	Initiation of voluntary turnover	n=	ee Quits	100%)
[ND]	-	(31	.7%)	_]

Table 2 DYSFUNCTIONAL/FUNCTIONAL CLASSIFICATION OF TURNOVER BY QUALITY OF EMPLOYEE (7 Month Period)

Z		high quality employee +	low quality employee -	
INDIVIDUAL'S EVALUATION OF ORGANIZATION	No initiation of voluntary turnover	A employee remains n=856 (61.6%)	B employee fired n=92 (6.6%)	TOTAL N=1389 (100%)
INDIVIDUAL' OF ORGA	Initiation of voluntary turnover	C employee quits Dysfunctional Turnover n=256 (18.4%)	Demployee quits Functional Turnover n=185 (13.3%)	

Table 3

# DYSFUNCTIONAL/FUNCTIONAL CLASSIFICATION OF TURNOVER BY REPLACEABILITY OF EMPLOYEE (7 Month Period)

not easily easily replaced

DIVIDUAL'S EVALUATIO OF ORGANIZATION No initiation of voluntary turnover

Initiation of voluntary turnover

### employee remains n=856 (61.6%)	B employee fired n=92 (6.6%)
C employee quits Dysfunctional Turnover n=121 (8.8%)	D employee quits Functional Turnover n=314 (22.9%)

TOTAL N=1383 (100%)

Table 4 Unavoidable Turnover in Dysfunctional/Functional Classification

	BY QUALITY OF EMPLOYEE <sup>a</sup> Total Voluntary Turnover (N=441)	EMPLOYEE <sup>a</sup> y Turnover	BY REPLACEABILITY OF EMPLOYEED Total Voluntary Turnover (N=435)	Y OF EMPLOYEED y Turnover
	Dysfunctional (N=256; 58.0%)	Functional (N=185;42.0%)	Dysfunctional (N=121; 27.8%)	Functional (N=314; 72.2%)
UNAVOIDABLE TURNOVER				
Temporary	1	2	0	m
Summer	22	11	14	17
Education	30	18	12	36
Health	15	13	7	21
Family Commitment	37	20	23	34
Personal (undisclosed)	7	15	4	18
Job Abandonment	so	&	2	וו
TOTAL UNAVOIDABLE SEPARATIONS	N=117 (45.7%)	N=87 (47.0%)	N=62 (51.2%)	N=140 (44.6%)
CONTROLLABLE SEPARATIONS	N=139 (54.2%)	N=98 (52.9%)	N=59 (48.7%)	N=174 (55.4%)

less:

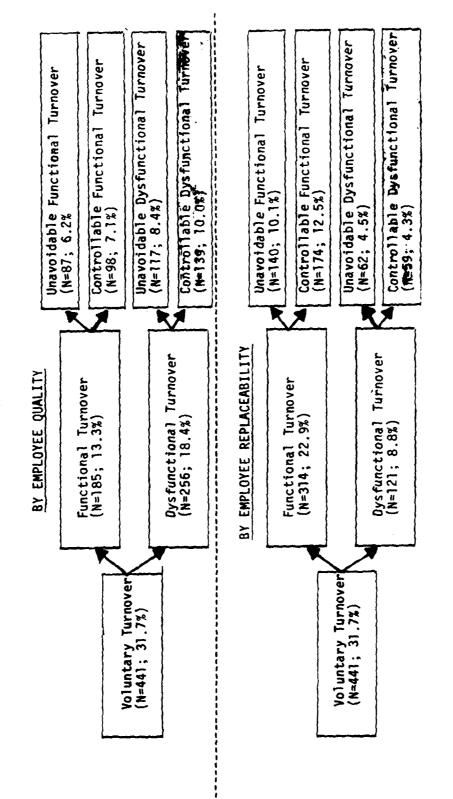
a number of cases from Table 2

b number of cases from Table 3

Table 5

Summary of Effects:

Dysfunctional/Functional Categorization with Unavoidable Separations



P4-5/Al Sequential by Agency 452:KD:716:enj 78u452-883 24 June 1981

### LIST 1

Defense Technical Information Center (12 copies)
ATTN: DTIC DDA-2
Selection and Preliminary Cataloging Section
Cameron Station
Alexandria, VA 22314

Library of Congress Science and Technology Division Washington, DC 20540

Office of Naval Research (3 copies)
Code 452
800 N. Quincy Street
Arlington, VA 22217

Naval Research Laboratory (6 copies) Code 2627 Washington, DC 20375

Office of Naval Research Director, Technology Programs Code 200 800 N. Quincy Street Arlington, VA 22217

Office of Naval Research Code 450 800 N. Quincy Street Arlington, VA 22217

Office of Naval Research Code 458 800 N. Quincy Street Arlington, VA 22217

Office of Naval Research Code 455 800 N. Quincy Street Arlington, VA 22217

### LIST 2 ONR FIELD

ONR Western Regional Office 1030 E. Green Street Pasadena, CA 91106

Psychologist ONR Western Regional Office 1030 E. Green Street Pasadena, CA 91106

ONR Regional Office 536 S. Clark Street Chicago, IL 60605

Psychologist ONR Regional Office 536 S. Clark Street Chicago, IL 60605

Psychologist ONR Eastern/Central Regional Office Bldg. 114, Section D 666 Summer Street Boston, MA 02210

ONR Eastern/Central Regional Office Bldg. 114, Section D 666 Summer Street Boston, MA 02210 LIST 3 OPNAV

Deputy Chief of Naval Operations (Manpower, Personnel, and Training) Head, Research, Development, and Studies Branch (Op-115) 1812 Arlington Annex Washington, DC 20350

Director Civilian Personnel Division (OP-14) Department of the Navy 1803 Arlington Annex Washington, DC 20350

Deputy Chief of Naval Operations (Manpower, Personnel, and Training) Director, Human Resource Management Plans and Policy Branch (Op-150) Department of the Navy Washington, DC 20350

Deputy Chief of Naval Operations (Manpower, Personnel, and Training) Director, Human Resource Management Plans and Policy Branch (Op-150) Department of the Navy Washington, DC 20350

Chief of Naval Operations
Head, Manpower, Personnel, Training
and Reserves Team (Op-964D)
The Pentagon, 4A478
Washington, DC 20350

Chief of Naval Operations Assistant, Personnel Logistics Planning (Op-987H) The Pentagon, 5D772 Washington, DC 20350

### LIST 4 NAVMAT & NPRDC

NAVMAT

Program Administrator for Manpower, Personnel, and Training MAT 0722 800 N. Quincy Street Arlington, VA 22217

Naval Material Command Management Training Center NAVMAT 09M32 Jefferson Plaza, Bldg #2, Rm 150 1421 Jefferson Davis Highway Arlington, VA 20360

Naval Material Command NAVMAT-OOK Washington, DC 20360

Naval Material Command NAVMAT-OOKB Washington, DC 20360

Naval Material Command (MAT-03)Crystal Plaza #5 Room 236 2211 Jefferson Davis Highway Arlington, VA 20360

NPRDC

Commanding Officer Naval Personnel R&D Center San Diego, CA 92152

Navy Personnel R&D Center Washington Liaison Office Building 200, 2N Washington Navy Yard Washington, DC 20374

(5 Copies)

452:KD:716:enj 78u452-883 24 June 1981

LIST 5 BUMED

Commanding Officer Naval Health Research Center San Diego, CA 92152

CDR William S. Maynard Psychology Department Naval Regional Medical Center San Diego, CA 92134

Naval Submarine Medical Research Laboratory Naval Submarine Base New London, Box 900 Croton, CT 06349

Director, Medical Service Corps Bureau of Medicine and Surgery Code 23 Department of the Navy Washington, DC 20372

Naval Aerospace Medical Research Lab Naval Air Station Pensacola, FL 32508

Program Manager for Human Performance Naval Medical R&D Command National Naval Medical Center Bethesda, MD 20014

Navy Medical R&D Command ATTN: Code 44 National Naval Medical Center Bethesda, MD 20014

# LIST 6 NAVAL ACADEMY AND NAVAL POSTGRADUATE SCHOOL

Naval Postgraduate School ATTN: Dr. Richard S. Elster Department of Administrative Sciences Monterey, CA 93940

Naval Postgraduate School ATTN: Professor John Senger Operations Research and Administrative Science Monterey, CA 93940

Superintendent Naval Postgraduate School Code 1424 Monterey, CA 93940

Naval Postgraduate School ATTN: Dr. James Arima Code 54-Aa Monterey, CA 93940

Naval Postgraduate School ATTN: Dr. Richard A. McGonigal Code 54 Monterey, CA 93940

U.S. Naval Academy ATTN: CDR J. M. McGrath Department of Leadership and Law Annapolis, MD 21402

Professor Carson K. Eoyang Naval Postgraduate School, Code 54EG Department of Administration Sciences Monterey, CA 93940

Superintendent ATTN: Director of Research Naval Academy, U.S. Annapolis, MD 21402 LIST 7 HRM

Officer in Charge Human Resource Management Detachment Naval Air Station Alameda, CA 94591

Officer in Charge Human Resource Management Detachment Naval Submarine Base New London P.O. Box 81 Groton, CT 06340

Officer in Charge Human Resource Management Division Naval Air Station Mayport, FL 32228

Commanding Officer
Human Resource Management Center
Pearl Harbor, HI 96860

Commander in Chief Human Resource Management Division U.S. Pacific Fleet Pearl Harbor, HI 96860

Officer in Charge Human Resource Management Detachment Naval Base Charleston, SC 29408

Commanding Officer
Human Resource Management School
Naval Air Station Memphis
Millington, TN 38054

Human Resource Management School Naval Air Station Memphis (96) Millington, TN 38054 List 7 (Continued)

452:KD:716:enj 78u452-883 24 June 1981

Commanding Officer
Human Resource Management Center
1300 Wilson Boulevard
Arlington, VA 22209

Commanding Officer Human Resource Management Center 5621-23 Tidewater Drive Norfolk, VA 23511

Commander in Chief Human Resource Management Division U.S. Atlantic Fleet Norfolk, VA 23511

Officer in Charge Human Resource Management Detachment Naval Air Station Whidbey Island Oak Harbor, WA 98278

Commanding Officer
Human Resource Management Center
Box 23
FPO New York 09510

Commander in Chief
Human Resource Management Division
U.S. Naval Force Europe
FPO New York 09510

Officer in Charge Human Resource Management Detachment Box 60 FPO San Francisco 96651

Officer in Charge Human Resource Management Detachment COMNAVFORJAPAN FPO Seattle 98762 P4-5/Al6 Sequential by State/City 452:KD:716:lab 78u452-883 30 May 1981

## LIST 8 NAVY MISCELLANEOUS

Naval Military Personnel Command (2 copies) HRM Department (NMPC-6) Washington, DC 20350

Naval Training Analysis and Evaluation Group Orlando, FL 32813

Commanding Officer ATTN: TIC, Bldg. 2068 Naval Training Equipment Center Orlando, FL 32813

Chief of Naval Education and Training (N-5) Director, Research Development, Test and Evaluation Naval Air Station Pensacola, FL 32508

Chief of Naval Technical Training ATTN: Dr. Norman Kerr, Code 017 NAS Memphis (75) Millington, TN 38054

Navy Recruiting Command Head, Research and Analysis Branch Code 434, Room 8001 801 North Randolph Street Arlington, VA 22203

Commanding Officer
USS Carl Vinson (CVN-70)
Newport News Shipbuilding &
Drydock Company
Newport News, VA 23607

LIST 9 USMC

Headquarters, U.S. Marine Corps Code MPI-20 Washington, DC 20380

Headquarters, U.S. Marine Corps ATTN: Dr. A. L. Slafkosky, Code RD-1 Washington, DC 20380

Education Advisor Education Center (E031) MCDEC Quantico, VA 22134

Commanding Officer Education Center (E031) MCDEC Quantico, VA 22134

Commanding Officer
U.S. Marine Corps
Command and Staff College
Quantico, VA 22134

P4-5/A20 Sequential by Principal Investigator

452:KD:716:enj 78u452-883 24 May 1981

LIST 10 DARPA

Defense Advanced Research Projects Agency Director, Cybernetics Technology Office 1400 Wilson Blvd, Rm 625 Arlington, VA 22209

Mr. Michael A. Daniels International Public Policy Research Corporation 6845 Elm Street, Suite 212 McLean, VA 22101

Dr. A. F. K. Organski Center for Political Studies Institute for Social Research University of Michigan Ann Arbor, MI 48106 (3 copies)

P4-5/A23 Sequential by Agency 452:KD:716:enj 78u452-883 24 June 1981

### LIST 11 OTHER FEDERAL GOVERNMENT

Dr. Douglas Hunter
Defense Intelligence School
Washington, DC 20374

Dr. Brian Usilaner GAO Washington, DC 20548

National Institute of Education ATTN: Dr. Fritz Mulhauser EOLC/SMO 1200 19th Street, N.W. Washington, DC 20208

National Institute of Mental Health Division of Extramural Research Programs 5600 Fishers Lane Rockville, MD 20852

National Institute of Mental Health Minority Group Mental Health Programs Room 7 - 102 5600 Fishers Lane Rockville, MD 20852

Office of Personnel Management Office of Planning and Evaluation Research Management Division 1900 E Street, N.W. Washington, DC 20415

Office of Personnel Management ATTN: Ms. Carolyn Burstein 1900 E Street, NW. Washington, DC 20415

Office of Personnel Management ATTN: Mr. Jeff Kane Personnel R&D Center 1900 E Street, N.W. Washington, DC 20415

Chief, Psychological Research Branch ATTN: Mr. Richard Lanterman U.S. Coast Guard (G-P-1/2/TP42) Washington, DC 20593 P4-5/A24 Sequential by Agency 452:KD:716:enj 78u452-883 24 June 1981

LIST 11 CONT'D

OTHER FEDERAL GOVERNMENT

Social and Developmental Psychology Program National Science Foundation Washington, DC 20550

P4-5/A25 Sequential by State/City 452:KD:716:enj 78u452-883 24 June 1981

LIST 12 ARMY

Headquarters, FORSCOM ATTN: AFPR-HR Ft. McPherson, GA 30330

Army Research Institute
Field Unit - Leavenworth
P.O. Box 3122
Fort Leavenworth, KS 66027

Technical Director Army Research Institute 5001 Eisenhower Avenue Alexandria, VA 22333

Director Systems Research Laboratory 5001 Eisenhower Avenue Alexandria, VA 22333

Director Army Research Institute Training Research Laboratory 5001 Eisenhower Avenue Alexandria, VA 22333

Dr. T. O. Jacobs Code PERI-IM Army Research Institute 5001 Eisenhower Avenue Alexandria, VA 22333

COL Howard Prince
Head, Department of Behavior
Science and Leadership
U.S. Military Academy, New York 10996

LIST 13 AIR FORCE

Air University Library/LSE 76-443 Maxwell AFB, AL 36112

COL John W. Williams, Jr. Head, Department of Behavioral Science and Leadership U.S. Air Force Academy, CO 80840

MAJ Robert Gregory
USAFA/DFBL
U.S. Air Force Academy, CO 80840

AFOSR/NL (Dr. Fregly) Building 410 Bolling AFB Washington, DC 20332

LTCOL Don L. Presar
Department of the Air Force
AF/MPXHM
Pentagon
Washington, DC 20330

Technical Director AFHRL/MO(T) Brooks AFB San Antonio, TX 78235

AFMPC/MPCYPR Randolph AFB, TX 78150

452:KD:716:1ab 78u452-883 30 May 1981

# LIST 14. MISCELLANEOUS

Australian Embassy Office of the Air Attache (S3B) 1601 Massachusetts Avenue, N.W. Washington, DC 20036

British Embassy Scientific Information Officer Room 509 3100 Massachusetts Avenue, N.W. Washington, DC 20008

Canadian Defense Liaison Staff, Washington ATTN: CDRD 2450 Massachusetts Avenue, N.W. Washington, DC 20008 Commandant, Royal Military
College of Canada
ATTN: Department of Military
Leadership and Management
Kingston, Ontario K7L 2W3

National Defence Headquarters ATTN: DPAR Ottawa, Ontario KlA OK2

Mr. Luigi Petrullo 2431 North Edgewood Street Arlington, VA 22207

### LIST 15 CURRENT CONTRACTORS

Dr. Richard D. Arvey University of Houston Department of Psychology Houston, TX 77004

Dr. Arthur Blaiwes Human Factors Laboratory, Code N-71 Naval Training Equipment Center Orlando, FL 32813

Dr. Joseph V. Brady
The Johns Hopkins University
School of Medicine
Division of Behavioral Biology
Baltimore, MD 21205

Dr. Stuart W. Cook Institute of Behavioral Science #6 University of Colorado Box 482 Boulder, CO 80309

Dr. L. L. Cummings
Kellogg Graduate School of Management
Northwestern University
Nathaniel Leverone Hall
Evanston, IL 60201

Dr. Henry Emurian
The Johns Hopkins University
School of Medicine
Department of Psychiatry and
Behavioral Science
Baltimore, MD 21205

Dr. John P. French, Jr. University of Michigan Institute for Social Research P.O. Box 1248 Ann Arbor, MI 48106

Dr. Paul S. Goodman Graduate School of Industrial Administration Carnegie-Mellon University Pittsburgh, PA 15213

452:KD:716:enj 78u452-883 24 June 1981

Dr. J. Richard Hackman School of Organization and Management Box IA, Yale University New Haven, CT 06520

Dr. Lawrence R. James School of Psychology Georgia Institute of Technology Atlanta, GA 30332

Dr. Allan Jones Naval Health Research Center San Diego, CA 92152

Dr. Frank J. Landy
The Pennsylvania State University
Department of Psychology
417 Bruce V. Moore Building
University Park, PA 16802

Dr. Bibb Latane'
The Ohio State University
Department of Psychology
404 B West 17th Street
Columbus, OH 43210

Dr. Edward E. Lawler University of Southern California Graduate School of Business Administration Los Angeles, CA 90007

Dr. Edwin A. Locke College of Business and Management University of Maryland College Park, MD 20742

Dr. Fred Luthans Regents Professor of Management University of Nebraska - Lincoln Lincoln, NB 68588 LIST 15 (Continued)

Dr. R. R. Mackie Human Factors Research Santa Barbara Research Park 6780 Cortom Drive Goleta, CA 93017

Dr. William H. Mobley College of Business Administration Texas A&M University College Station, TX 77843

Dr. Thomas M. Ostrom
The Ohio State University
Department of Psychology
116E Stadium
404C West 17th Avenue
Columbus, OH 43210

Dr. William G. Ouchi University of California, Los Angeles Graduate School of Management Los Angeles, CA 90024

Dr. Irwin G. Sarason University of Washington Department of Psychology, NI-25 Seattle, WA 98195

Dr. Benjamin Schneider Department of Psychology Michigan State University East Lansing, MI 48824

Dr. Saul B. Sells Texas Christian University Institute of Behavioral Research Drawer C Fort Worth, TX 76129

Dr. Edgar H. Schein Massachusetts Institute of Technology Sloan School of Management Cambridge, MA 02139 LIST 15 (Continued)

Dr. H. Wallace Sinaiko
Program Director, Manpower Research
and Advisory Services
Smithsonian Institution
801 N. Pitt Street, Suite 120
Alexandria, VA 22314

Dr. Richard M. Steers Graduate School of Management University of Oregon Eugene, OR 97403

Dr. Gerald R. Stoffer Aerospace Psychologist LT, Medical Service Corp. Code N-712 NAVTRAEQUIPCEN Orlando, FL 32813

Dr. Siegfried Streufert The Pennsylvania State University Department of Behavioral Science Milton S. Hershey Medical Center Hershey, PA 17033

Dr. James R. Terborg University of Oregon West Campus Department of Management Eugene, OR 97403

Dr. Harry C. Triandis Department of Psychology University of Illinois Champaign, IL 61820

Dr. Howard M. Weiss Purdue University Department of Psychological Sciences West Lafayette, IN 47907

Dr. Philip G. Zimbardo Stanford University Department of Psychology Stanford, CA 94305

